

In the Claims:

Please amend claims 1 and 11 as follows:

1. (Currently Amended) A magnetoresistive film comprising:

an antiferromagnetic layer;

A
a first pinned ferromagnetic layer superposed on the antiferromagnetic layer, a base interfacial roughness being formed between the antiferromagnetic layer and the first pinned ferromagnetic layer;

an antiferromagnetic bonding layer superposed on the first pinned ferromagnetic layer;

a second pinned ferromagnetic layer superposed on the antiferromagnetic bonding layer;

a compound existing between the antiferromagnetic layer and the second pinned ferromagnetic layer;

a non-magnetic spacer layer superposed on the second pinned ferromagnetic layer, an interfacial roughness smaller than the base interfacial roughness being formed between the second pinned ferromagnetic layer and the non-magnetic spacer layer; and;

a free ferromagnetic layer superposed on the non-magnetic spacer layer;
and

~~———— a compound existing between the antiferromagnetic layer and the second pinned ferromagnetic layer.~~

2. (Original) The magnetoresistive film according to claim 1, wherein said antiferromagnetic layer is a polycrystalline layer of a regulated lattice structure.

3. (Original) The magnetoresistive film according to claim 2, wherein said compound comprises at least one of an oxide, a nitride, a sulfide and a carbide.

4. (Original) The magnetoresistive film according to claim 3, wherein said oxide, nitride, sulfide or carbide is a compound consisting of an element included in the antiferromagnetic bonding layer, and oxygen, nitrogen, sulfur or carbon.

5. (Original) The magnetoresistive film according to claim 4, wherein said antiferromagnetic bonding layer has a thickness in the range between 0.5nm and 0.9nm.

6. (Original) The magnetoresistive film according to claim 5, wherein said non-magnetic spacer layer has a thickness in the range between 1.9nm and 2.3nm.

7-10. Withdrawn.

11. (Currently Amended) A layered polycrystalline structure film comprising:

*Al
Crown* a first crystalline ferromagnetic crystal-layer having a base interfacial roughness;

an antiferromagnetic bonding layer formed on the first crystalline ferromagnetic crystal-layer based on epitaxy;

a second crystalline ferromagnetic crystal-layer formed on the epitaxial antiferromagnetic bonding layer based on epitaxy; and

a compound existing between the antiferromagnetic bonding layer and the second crystalline ferromagnetic crystal-layer, wherein

said second crystalline ferromagnetic layer forms an interfacial roughness smaller than the base interfacial roughness.

12. (Original) The layered polycrystalline structure film according to claim 11, wherein said compound comprises at least one of an oxide, a nitride, a sulfide and a carbide.

13. (Original) The layered polycrystalline structure film according to claim 12, wherein said oxide, nitride, sulfide or carbide is a compound consisting of an element included in the antiferromagnetic bonding layer, and oxygen, nitrogen, sulfur or carbon.